Rugged CF 10/100 Card

CompactFlash card for 10 Mbps or 100 Mbps Ethernet access from Pocket PCs running Windows Mobile® 2003, 2003SE or 5.0

User's Guide

socket®
Increasing Mobile Productivity

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Feel free to contact Socket Mobile at:

Socket Mobile, Inc.
39700 Eureka Drive
Newark, CA 94560-4808

Other than the above, Socket Mobile can assume no responsibility for anything resulting from the application of information contained in this manual.

Socket Mobile requests that you refrain from any applications of the Rugged CF 10/100 Card that are not described in this manual. Socket Mobile also requests that you refrain from disassembling the CompactFlash card. Disassembly of this device will void the product warranty.

You can track new product releases, software updates and technical bulletins by visiting the Socket website at www.socketmobile.com.

Please refrain from disassembling the CompactFlash card. Disassembly of this device will void the product warranty

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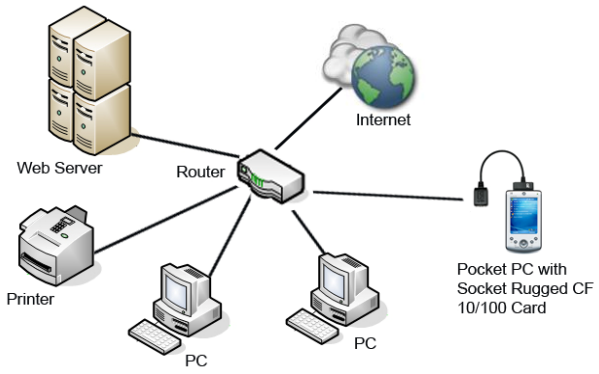
1 | Introduction

Thank you for purchasing the Rugged CF 10/100 Card. The card enables you to connect to any compatible Ethernet network, home network or corporate LAN using a variety of Windows Mobile-based devices. It's perfect for secure network access where Wi-Fi® isn't an option.



With the Rugged CF 10/100 Card, you can synchronize your calendar, contacts, and inbox in seconds. It's also great for quickly backing up your device, installing software, connecting to network printers, and sharing files with colleagues. For IT professionals, the Rugged CF 10/100 Card is ideal for remotely performing system administration tasks such as server configuration, LAN testing, and FTP.

Featuring an exclusive Battery Friendly® design, the Rugged CF 10/100 Card is the most energy efficient product of its kind. You can use the card for hours on battery power without having to stop and recharge. The 10/100 Ethernet software utility even features different power options, so you can configure your connection according to the amount of power available on your device.

About the Software

The Rugged CF 10/100 Card comes with a handy software utility designed to enhance your networking experience. The Socket 10-100 software utility features the following components:

- *Task tray icon*: Quickly view your GoodLink and Activity status at a glance. The card does not have any status indicator LEDs, so the software icon conveys important status information.

- *Status page*: Quickly check the status of your connection, including the IP address, link speed, and the duration of your connection. Also view the number of packets sent and received.
- *IP Info page*: View comprehensive IP address information. Quickly renew or release the IP address assigned by DHCP.
- *Auto-Launch page*: Configure your device to automatically launch any program of your choice after the card is inserted.
- *Power page*: Choose the level of power consumption by selecting the link speed.

Support for square screens and landscape mode is included. For software updates, please visit: www.socketcom.com/support/support_ethernet.asp

System Requirements

Your device should meet these minimum requirements:

- Windows Mobile 2003, 2003SE or 5.0
- Available CF or PC Card slot
  (Operation in PC Card slot requires a PC Card adapter.)
- Windows Mobile 5.0: If your host computer is running Windows 2000/XP, ActiveSync 4.0 or greater is required.

Note: The Rugged CF 10/100 Card is NOT NE2000 compliant.

WARNING!

If you are using Windows Mobile 2003/2003SE, DO NOT install ActiveSync 4.0, or you will not be able to synchronize your device and host PC over an Ethernet connection!

Microsoft removed this feature from ActiveSync 4.0. If your Windows version does not require ActiveSync 4.0, Socket recommends that you use an older version of ActiveSync that supports device synchronization over Ethernet.

Product Registration

Socket highly recommends that all customers register their Socket products. Registered users receive the following benefits:

- Priority for technical support
- Special offers for future products and product upgrades
- The latest new product information

Register online at: www.socketmobile.com/support/support/new

2 | Installation

This chapter explains how to set up the Rugged CF 10/100 Card for a device running Windows Mobile 2003, 2003SE or 5.0.

Setup Summary

STEP 1: Prepare network information.
STEP 2: Install the software.
STEP 3: Enter network settings.
STEP 4: Insert card and connect to LAN.

STEP 1: Prepare Network Information

Contact your network administrator for the information below.

For a text-only form that you can email to your network administrator, go to the Docs folder on the installation CD.

Does the network support DHCP (Dynamic Host Configuration Protocol)?

☐ **YES**. If *Yes*, then STOP. You do NOT need any IP addresses.

☐ **NO**. If *No*, then please specify any applicable IP addresses (you may only need some listed below):

- Mobile Computer IP address: _____ . _____ . _____ . _____
- Subnet Mask: _____ . _____ . _____ . _____
- Default Gateway: _____ . _____ . _____ . _____
- Primary DNS: _____ . _____ . _____ . _____
- Secondary DNS: _____ . _____ . _____ . _____
- Primary WINS*: _____ . _____ . _____ . _____
- Secondary WINS: _____ . _____ . _____ . _____

**Remote ActiveSync only*: If your server does NOT have WINS services enabled, use the IP address of your host PC instead of a Primary WINS address. You can only synchronize over Ethernet using Windows Mobile 2003/2003SE and a version of ActiveSync previous to 4.0.

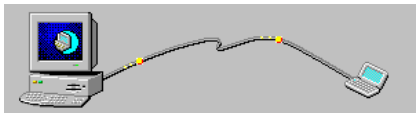
STEP 2: Install the Software

Follow these steps for software installation BEFORE you insert the Rugged CF 10/100 Card into your device. Software installation is required because the card is not NE2000 compatible.

1. *Windows Mobile 5.0:* Make sure you have ActiveSync 4.0 or greater. Download it free: msdn.microsoft.com/mobility/windowsmobile/downloads/default.aspx

WARNING! If you are using Windows Mobile 2003/2003SE, DO NOT install ActiveSync 4.0, or you will not be able to synchronize your device and host PC over an Ethernet connection!

2. Use your serial/USB cable or cradle to connect your device to a host PC.



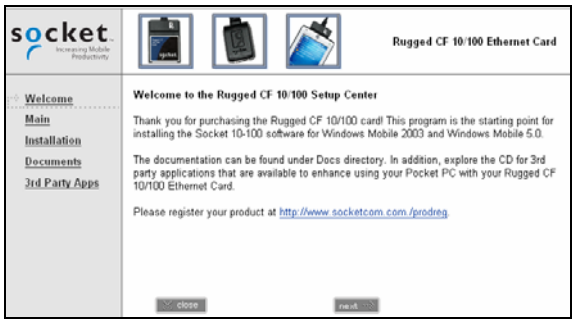
*Windows Mobile 2003/2003SE: If you want to synchronize data, there must be a partnership **(NOT a guest connection)** between the device and host PC. Refer to your Pocket PC manual for instructions.*

If your host computer is running Windows Vista, use the Windows Mobile Device Center instead of ActiveSync.

3. Insert the *Socket 10/100 Installation Disc* into the host PC.

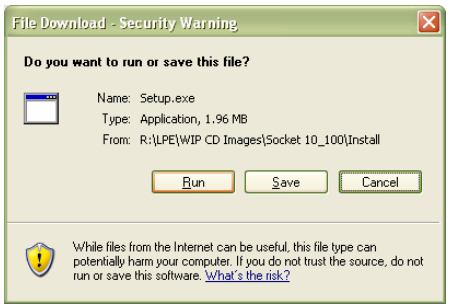
4. Use My Computer or Windows Explorer to access the CD drive. In the CD contents, click on Setup.

5. The Rugged CF 10/100 Setup Center will launch in your web browser.


socket
Rugged CF 10/100 Ethernet Card
Welcome
Main
Installation
Documents
3rd Party Apps
Welcome to the Rugged CF 10/100 Setup Center
Thank you for purchasing the Rugged CF 10/100 card! This program is the starting point for installing the Socket 10-100 software for Windows Mobile 2003 and Windows Mobile 5.0.
The documentation can be found under Docs directory. In addition, explore the CD for 3rd party applications that are available to enhance using your Pocket PC with your Rugged CF 10/100 Ethernet Card.
Please register your product at http://www.socketcom.com/prodreg
close
next

6. Follow the setup center to install the software.
   - Read the information in the first screen and click next.
   - In the Main Page, click Install Software.
   - In the Installation Page, click Windows Mobile.

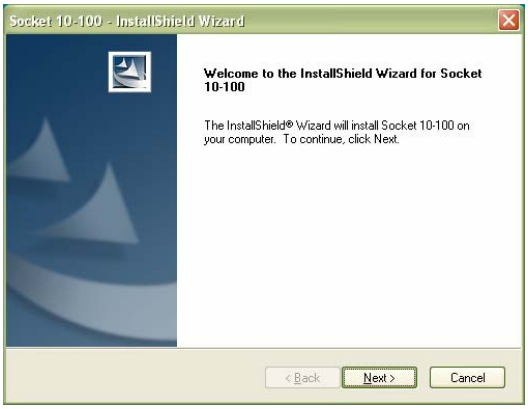
7. A file download screen will appear from your web browser. When asked what you want to do with the file, choose the option that lets your run or open the file.


File Download - Security Warning
Do you want to run or save this file?
Name: Setup.exe
Type: Application, 1.96 MB
From: R:\LPE\WIP CD Images\Socket 10_100\Install
Run
Save
Cancel
While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Note: For some web browsers, you may need to save the file before you can open it.

If your web browser warns that you are opening an executable file, click OK to continue.

8. The installation wizard should begin. Follow the instructions on your PC and device screens until installation is complete.


Socket 10-100 - InstallShield Wizard
Welcome to the InstallShield Wizard for Socket 10-100
The InstallShield® Wizard will install Socket 10-100 on your computer. To continue, click Next.
< Back
Next >
Cancel

9. After completing the installation, disconnect the device from the serial/USB connection cable/cradle.

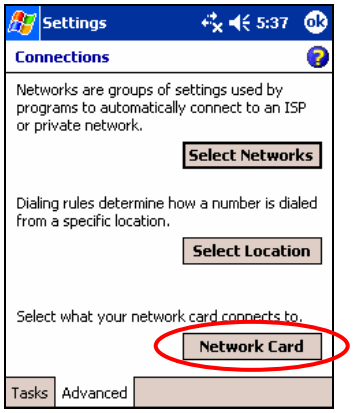
10. Soft reset the device by pushing the reset button.

STEP 3: Enter Network Settings

1. Open the Configure Network Adapters screen.

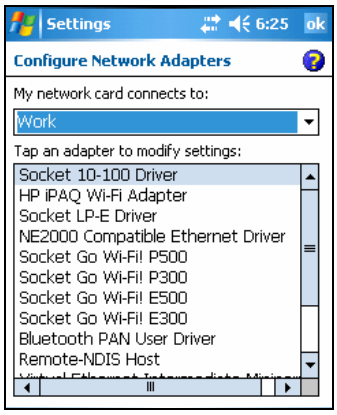
   Windows Mobile 2003SE or 5.0:
   Tap Start | Settings | Connections tab | Network Cards.

   Windows Mobile 2003:
   - Tap Start | Settings | Connections tab | Connections.
   - Tap on the Advanced tab.
   - Tap on the Network Card button at the bottom of the screen.


Settings
5:37
ok
Connections
Networks are groups of settings used by programs to automatically connect to an ISP or private network.
Select Networks
Dialing rules determine how a number is dialed from a specific location.
Select Location
Select what your network card connects to.
Network Card
Tasks
Advanced

2. The Configure Network Adapters screen will appear. In the drop-down menu at the top of the screen, select the appropriate option for your network.

   - The Internet: Select to connect from home and/or via an ISP (e.g., to browse the Internet).
   - Work: Select to connect to a private network, (e.g., a work or proxy network.



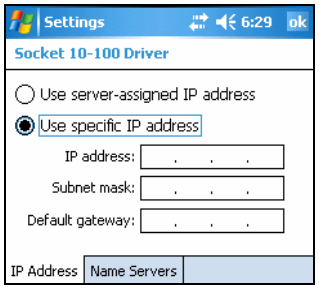
TIP *If you are connecting to a proxy or secure network, refer to your Pocket PC documentation for configuration information.*

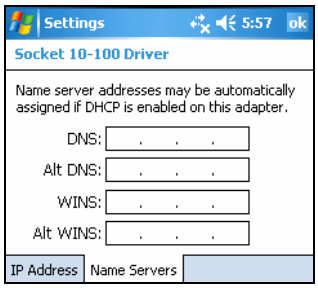
3. If you DO NOT need to enter IP addresses, (i.e., your network uses DHCP), tap ok. You are now ready to proceed to STEP 4 to connect to a LAN and insert the card.

4. If you DO need to enter IP addresses, tap Socket 10-100 Driver.

TIP *Do not select NE2000 Compatible Ethernet Driver, because the Rugged CF 10/100 Card is not NE2000 compatible.*

5. Enter your network settings. In the IP Address screen, select Use specific IP address to enter the necessary IP addresses. Tap on the Name Servers tab to enter DNS and WINS addresses.





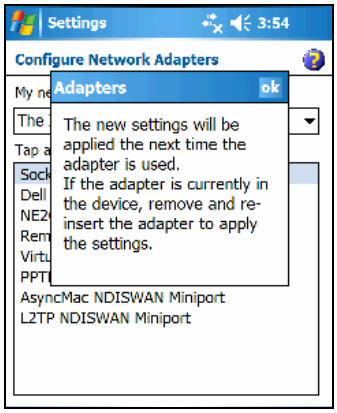
If using a static IP address, you may need to enter the host computer's IP address in the WINS field to use ActiveSync. You can only synchronize over Ethernet using Windows Mobile 2003/2003SE and an ActiveSync version previous to 4.0.

6. When you have finished entering settings, tap ok.

IMPORTANT!

If you forget to tap ok, your settings will not take effect!

7. A screen will report that the new settings will take effect when you next insert the network card. Tap ok.


Settings
3:54
Configure Network Adapters
Adapters
ok
The new settings will be applied the next time the adapter is used.
If the adapter is currently in the device, remove and re-insert the adapter to apply the settings.
AsyncMac NDISWAN Miniport
L2TP NDISWAN Miniport

8. Soft reset your Pocket PC by pressing the reset button.

STEP 4: Insert Card and Connect to LAN

1. If you have not done so already, soft reset your device.

2. Insert the Rugged CF 10/100 Card into your device right-side up, with the blue label on top.

   If inserting the Rugged CF 10/100 Card into a PC Card slot, use a PC Card adapter (not included).

3. Plug the connector into a LAN port

If you would like to check whether you have a good connection, do the following:

- *Check the Socket Ethernet icon at the bottom of the Today screen. If it has a green square on the top left, there is a good connection.*

- *Verify that the connection has a valid IP address for your network.*

  a) *Tap on the Socket Ethernet icon to open the applet. In the pop-up menu, tap* Status.

  b) *In the* Status *screen, check the* IP Address *field.*

  – *<u>If your network uses a static IP address</u>, make sure it appears correctly.*

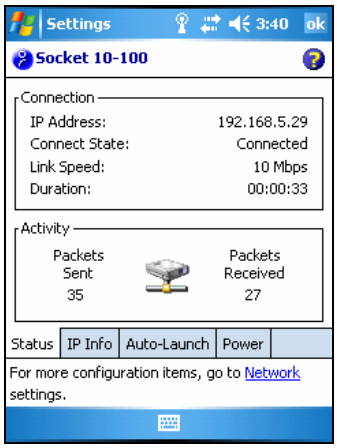
  – *<u>If your network uses DHCP</u>, make sure the IP address is within the valid range for your network. Consult with your network administrator.*

- *Test your web access. Start Pocket Internet Explorer. Enter a URL and test to see if the website appears correctly.*

  If you cannot enter a URL because the address bar does not appear, tap View *and select* Address Bar.

3 | Socket 10/100 Ethernet Utility

This chapter explains how to use the Socket 10/100 Ethernet software utility for Windows Mobile.



- *Task tray icon*: Quickly view your GoodLink and Activity status at a glance.
- *Status page*: Quickly check the status of your connection, including the IP address, link speed, and the duration of your connection. Also view the number of packets sent and received.
- *IP Info page*: View comprehensive IP address information. Quickly renew or release the IP address assigned by DHCP.
- *Auto-Launch page*: Configure your device to automatically launch any program of your choice after the card is inserted.
- *Power page*: Choose the level of power consumption by selecting the link speed.

For software updates, visit: www.socketmobile.com/support/downloads

For help using the utility, tap on the Help icon on any of the utility pages.

Access the Utility

1. To open the utility, tap on the Socket 10-100 Ethernet icon at the bottom of the Today screen. In the pop-up menu, tap Status.

   Alternatively, you can tap Start | Settings | Connections tab | Socket 10-100.

2. The Socket 10/100 Ethernet utility will appear, with the Status page open. Tap on the tabs to switch between different pages of the utility.

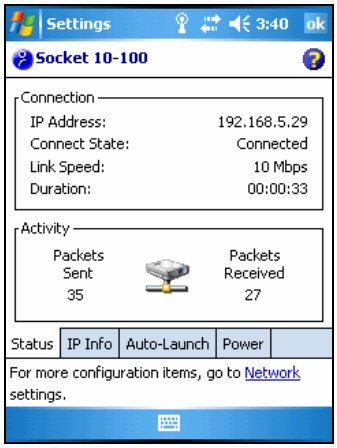
About the Task Tray Icon

The Socket Ethernet task tray icon appears at the bottom of the Today screen whenever the Rugged CF 10/100 Card is inserted into your device.

Icon behavior	Meaning
No icon	No card detected by your device.
Green square on top left of icon	Good link. The card is connected to a network.
Green circle is blinking	Network activity. Packets are being sent/received.

Status Page

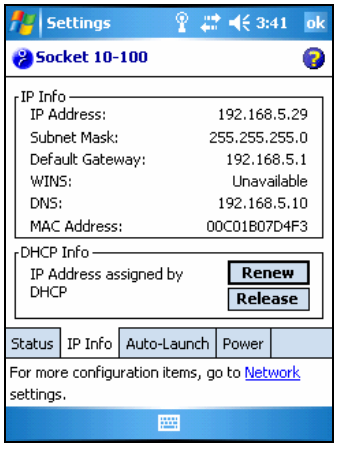
The Status page displays connection information, including the IP address, link speed, and duration of connection. Connection activity is also reported, including the number of packets sent and receive.



You can only use this screen to view connection information. You cannot modify any settings.

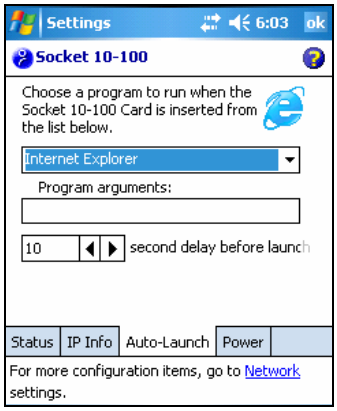
IP Info Page

The IP Info page reports comprehensive IP addresses, as well as DHCP information. You can also renew or release the IP address assigned by DHCP.



Auto-Launch Page

The Auto-Launch page enables you to choose a program to automatically run whenever the Rugged CF 10/100 Card is inserted into the device. Use the drop-down menu to select a program. By default, no program will automatically launch.

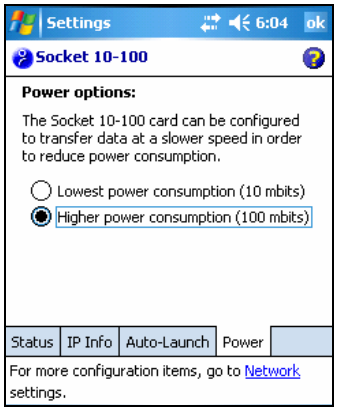


Program arguments: If needed, enter program arguments for custom applications.

Second delay before launch: Select how long your device will wait before auto-launching a program. Most devices have a default of 8 seconds, which gives enough time to recognize the Rugged CF 10/100 Card. If your network is slow, or if memory is low, 8 seconds may be too short.

Power Page

The Power Page enables you to select which level of power consumption you would like the Rugged CF 10/100 Card to operate at.



Appendix A
Specifications

Physical Characteristics:
CompactFlash Card:

Dimensions:	2.2 x 1.69 x 0.13 in (56 x 42.8 x 3.3 mm)
Mass:	1.7 oz (48.2 g)

Interconnect Cable Length`: 6.77 in (172 mm)

Operating Temperature Range: 0° to 55°C

Power Consumption (supplied by PC host):
Active with 3.3V Supply: 19 mA (63 mW)

Ethernet Interface:

Protocol:	10/100 (IEEE 802.3) Twisted Pair
Module Connector:	RJ-45 8-pin female connector

Operating System Support:
Windows Mobile 2003, 2003SE, and 5.0

Software Included: *Socket 10/100 Ethernet Installation Disc*

Performance: Ethernet Transfer Rate: 10/100 megabits per second

Certification/Compliance:

FCC:	Part 15, Class B
CE:	EN55024:1998
Industry Canada	
CompactFlash:	CompactFlash Spec. 2.0

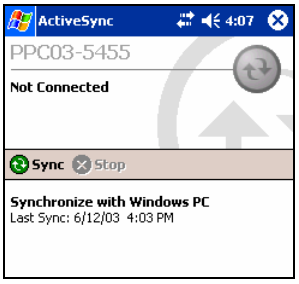
Warranty: **One year**

Appendix B
Synchronizing Data

FOR WINDOWS MOBILE 2003/2003SE ONLY!

Only Windows Mobile 2003/2003SE devices can synchronize data over Ethernet, and if only using a version of ActiveSync previous to 4.0.

1. Tap Start | ActiveSync:



IMPORTANT!

In order to use ActiveSync, you must have previously created a partnership between the Pocket PC and host PC!

2. In the main ActiveSync screen, tap Tools | Options. Check the box Sync with this PC during manual sync. Tap ok.

3. In the main ActiveSync screen, tap Sync. The Pocket PC will begin to synchronize data with your host PC.

4. To stop ActiveSync, tap Stop. You will still have network access, but you will not be able to synchronize data between the Pocket PC and host PC.

Appendix C
Troubleshooting

SYMPTOM: *I am trying to synchronize data on my Windows Mobile 2003/2003SE device, and ActiveSync does not list the option Network Connection.*

POSSIBLE REASONS	SOLUTION
Your device is not receiving an IP address from the DHCP server. The server may be busy or unavailable.	Try removing the card and reinserting it. If ActiveSync still shows no network connection, wait for a few minutes. If you see the message "Unable to contact DHCP server, using cached information," the card is probably working properly. If after a few minutes, the problem persists, ask your network administrator to verify that the DHCP server is working properly.
Your auto-launch program starts too fast, and your device does not have enough time to connect to your network.	Increase the second delay before launch setting in the Auto-Launch tab of the Socket 10-100 Ethernet utility. If you have to set the delay to longer than 20 seconds, you should consult your network administrator.
Your server does not have WINS services enabled.	Enter the IP address of the host computer in the Primary WINS: field in order to use ActiveSync.

SYMPTOM: *My new IP addresses do not work.*

POSSIBLE REASON	SOLUTION
After entering the IP addresses for your card, you forgot to tap/click OK.	Re-enter the IP addresses. When done, tap/click OK.

SYMPTOM: *I get the message DHCP Lease Has Expired.*

POSSIBLE REASON	SOLUTION
You are using DHCP and have not used your card for a while.	Tap OK and continue.

SYMPTOM: *My DHCP server keeps reporting that it is busy, and I cannot connect to my LAN.*

POSSIBLE REASON	SOLUTION
Your network DHCP Server ran out of IP addresses.	Inform your network administrator.

SYMPTOM: *My device does not recognize the card after I insert it.*

POSSIBLE REASONS	SOLUTION
You did not install the card drivers. The card is NOT NE2000 compatible, so the software must be installed.	Install the software that came with the Rugged CF 10/100 Card. You can also download it from: www.socketmobile.com/support/downloads/Ethernet/10-100
	If are a developer and want to write NE2000 compatible drivers for the card, please refer to the "Rugged CF 10/100 Driver Porting Notes," available online at: www.socketmobile.com/support/downloads/ethernet/10-100

Appendix D
Technical Support

If you have trouble installing or using the Socket Rugged CF 10/100 Card, contact Socket's technical support department for help.

IMPORTANT!

To obtain technical support for your product, you must first register your product online at
www.socketmobile.com/support/support/new

After you register your product, log in. Click on the Technical Support tab and click Create New Ticket. After submitting an inquiry online, you can track the status of your request any time. If we are unable to resolve your support inquiry online, we can arrange for a technical support representative to call you at a specific time.

Limited Warranty

Socket Communications Incorporated (Socket) warrants this product against defects in material and workmanship, under normal use and service, for one (1) year from the date of purchase.

EXCLUDES: Consumables such as batteries, removable cables, cases, straps, chargers, and CF-to-PC Card adapters (90 day coverage only).

Incompatibility is not a defect covered by Socket's warranty. During the warranty period, Socket will, at its option, repair or replace the defective product at no charge when furnished with proof of retail purchase, provided that you deliver the product to Socket or to an authorized Socket Service Center.

The returned product must be accompanied by a return material authorization (RMA) number issued by Socket or by Socket's Authorized Service Center. If you ship the product, you must use the original container or equivalent and you must pay the shipping charges to Socket. Socket will pay surface shipping charges back to any location in the contiguous United States. This warranty applies only to the original retail purchaser and is not transferable.

Socket may, at its option, replace or repair the product with new or reconditioned parts and the returned product becomes Socket's property. Socket warrants the repaired or replaced products to be free from defects in material or workmanship for ninety (90) days after the return shipping date, or for the remainder of the original warranty period, whichever is greater.

This warranty does not cover the replacement of products damaged by abuse, accident, misuse or misapplication, nor as a result of service or modification other than by Socket.

SOCKET IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING DAMAGE TO PROPERTY AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some states do not allow limitation of implied warranties, or the exclusion or limitation of incidental or consequential damages, so that the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This product may contain fully tested, recycled parts, warranted as if new.

For warranty information, please visit: www.socketmobile.com/support

Limited Software Warranty

LIMITED WARRANTY. SOCKET warrants that the original disk or CD ROM is free from defects for 90 days from the date of delivery of the SOFTWARE.

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Regulatory Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. This equipment is also CE EN55024:1998 and Industry Canada compliant. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user may try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna of the radio or television.
- Increase the distance separating the equipment and the receiver.
- Connect the equipment to an outlet on a different branch circuit than that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet helpful:

How to Identify and Resolve Radio-TV Interference Problems

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402.

Product Disposal

Your device should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

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